

**What is claimed is**

1. A dose-measurement film (100) for the measurement of UV radiation and/or electron-beam radiation with a radiation-sensitive layer (11), **characterized in**  
5 **that** outer foils (10, 12) have been provided on both sides of the radiation-sensitive layer (11).
2. The dose-measurement film as claimed in claim 1, **characterized in that** the  
10 radiation-sensitive layer (11) reacts with coloration to UV radiation or electron-beam radiation, and in particular the radiation-sensitive layer (11) comprises the dye pararosaniline nitrile.
3. The dose-measurement film as claimed in claim 1 or 2, **characterized in that** the  
15 radiation-sensitive layer (11) comprises an opacifier, in particular iron oxide.
4. The dose-measurement film as claimed in any of claims 1 to 3, **characterized in**  
**that** the thickness of the radiation-sensitive layer (11) is from 1 to 150  $\mu\text{m}$ , in  
particular from 2 to 250  $\mu\text{m}$ .
- 20 5. The dose-measurement film as claimed in any of claims 1 to 4, **characterized in**  
**that** the thickness of the outer foils (10, 12) has been designed in such a way that  
from 0.1% to 95%, and in particular from 1% to 50%, of the UV radiation  
impacting the dose-measurement film preferably reaches the radiation-sensitive  
25 layer (11).
6. The dose-measurement film as claimed in any of claims 1 to 5, **characterized in**  
**that** the outer foils (10, 12) are composed of plastic and/or of coated paper.
7. The dose-measurement film as claimed in any of claims 1 to 6, **characterized in**  
30 **that** one or both of the outer foils (10, 12) are composed of a vapor-deposited  
metallic reflective layer or have been provided with a vapor-deposited metallic  
layer.

8. The dose-measurement film as claimed in any of claims 1 to 7, **characterized in that** the radiation-sensitive layer (11) has been deposited from a solvent onto an outer foil (10, 12).
- 5 9. The dose-measurement film as claimed in any of claims 1 to 8, **characterized in that** at least one of the outer foils (10, 12) has been provided with an adhesive layer on its outward-facing side.
- 10 10. The dose-measurement film as claimed in any of claims 1 to 9, **characterized in that** adhesive layers have been used for bonding of the radiation-sensitive layer (11) to the outer foil (12) and/or to the outer foil (10).
- 15 11. A dose-measurement method, in particular using a dose-measurement film (100) as claimed in any of claims 1 to 10, **characterized in that**, in a measurement device, light is generated with two or more different wavelengths for determination of the optical transmittance of the dose-measurement film (100) at the different wavelengths, using a light source switchable between the different wavelengths.
- 20 12. The dose-measurement method as claimed in claim 11, **wherein** a photodiode is used to generate the light.
13. The dose-measurement method as claimed in claim 11 or 12, **wherein** the dose-measurement film (100) is drawn by a motor through the measurement device.
- 25 14. The dose-measurement method as claimed in any of claims 11 to 13, **wherein** measured values from the measurement device are transferred by way of an electronic connection to a computer, and in particular direct display of the radiation dose in "mJ/cm<sup>2</sup>" takes place.
- 30 15. The dose-measurement method as claimed in any of claims 11 to 14, **wherein** a representation of the radiation dose as a function of the location on the dose-measurement film (100) is read out from the measurement device.

16. The dose-measurement method as claimed in any of claims 11 to 15, wherein the dose-measurement film (100) is irradiated exclusively with UV radiation, and in particular only with UV-C radiation, and with electromagnetic radiation of even shorter wavelength.

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17. The use of a dose-measurement film (100) as claimed in any of claims 1 to 10 for conduct of a dose-measurement method as claimed in any of claims 11 to 16 in a measurement device using a light source which can be switched over to emit light with two or more different wavelengths.